

METHOD AND APPARATUS FOR OBTAINING HIGH INTEGRITY AND AVAILABILITY IN MULTI-CHANNEL SYSTEMS

ABSTRACT OF THE DISCLOSURE

5 Systems and methods for asynchronous multi-channel data communications are provided. An embodiment of the invention includes a minimum of three channels for digital computation in Primary Flight Computers and four channels for digital/analog conversion in Actuation Control Electronics. Each channel (Primary Flight Computer or Actuation Control Electronics) contains two computation lanes with dissimilar processors and compilers. Hence with dual-dissimilar processors the computer architecture is fail-passive to generic errors.

10 The two Actuation Control Electronics computation lanes select the digital control data of one of the two computation lanes of one of the three digital computation channels for conversion and transmission to associated actuators.

